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MARSHALL STAR

Serving the Marshall Space Flight Center Community **April 21, 2005**

Michael Griffin takes the helm as NASA administrator

Griffin

From NASA Headquarters Release

Michael D. Griffin reported to work April 14 as NASA's 11th Administrator. Administrator Griffin became the leader of the Agency on the day the Expedition 11 crew launched to the International Space Station. The Administrator was confirmed April 13 late in the evening. An official swearing-in ceremony will be scheduled later.

"I have great confidence in the team that will carry out our nation's exciting, outward-focused, destination-oriented program," said Griffin. "In the coming days, I'll be spending a good deal of my time reviewing our progress toward returning the Space Shuttle safely to flight. I will also be reviewing the activities of our mission directorates and our various supporting functions. I share with the Agency a great sense of privilege that we have been given the wonderful opportunity to extend humanity's reach throughout the solar system."

During his confirmation hearing before the U.S. Senate, the Administrator stated

See *Griffin* on page 3

External tank put to the test

By Lynnette Madison

NASA's newly redesigned External Tank completed its test Thursday at Kennedy Space Center, Fla. Technicians filled the tank, ET-120, to test the pre-launch systems of the External Tank that is to launch Discovery on Mission STS-114: Space Shuttle Return to Flight.

Discovery arrived April 6 at Launch Pad 39B after more than two years of work on safety modifications to the External Tank and other vehicle upgrades.

The 11-hour test readied Discovery's main propulsion system and allowed technicians operating the hardware to gain first-hand experience on the redesigned tank. The test also allowed crews to evaluate the overall operation of ground systems in preparation for launch.

"From our standpoint, we'd say we got an 'A,'" said Neil Otte, chief engineer for the External Tank Project Office at the Marshall Center. The Space Shuttle Propulsion Office at Marshall manages the External Tank project.

NASA engineers and managers are continuing to evaluate the test data.

"With the completion of this tanking test, NASA is one step

See *Tanking Test* on page 5

DART mission partial success, ends early

The Demonstration of Autonomous Rendezvous Technology (DART) spacecraft that was successfully launched Friday at 12:25 p.m. CDT from Vandenberg Air Force Base, Calif., experienced an on orbit anomaly late Friday.

After a successful rendezvous, acquisition of the target spacecraft, and approach to within approximately 300 feet, DART placed itself in the retirement phase before completing all planned proximity operations, ending the mission prematurely.

NASA is convening a mishap investigation board to determine the reason for the DART spacecraft anomaly.

The DART spacecraft was a flight experiment attempting to establish autonomous rendezvous capabilities for the U.S. space program. While previous rendezvous and docking efforts have been piloted by astronauts, the DART spacecraft completed the rendezvous and acquisition with no human intervention, relying on a variety of sensors and analyses to complete these functions.

DART was launched on a Pegasus vehicle from the Orbital Science Corporation's Stargazer L-1011 aircraft. At approximately 40,000 feet over the Pacific Ocean, the Pegasus vehicle was released, boosting the DART spacecraft into an approximately 472-by-479-mile polar orbit.

Leadership training for culture change hits milestone

Director's Corner

Marshall Center Director David King

Today is a milestone day -- the roll-out of critical leadership development by Behavioral Sciences Technology, Inc. (BST). This is an important part of the Agency's ongoing effort toward changing the organizational and safety climate culture. Charles, Robin and I wanted to collectively show our support for this important work; however, my role in Return to Flight has called me away for the day, therefore Charles will take the helm for today's important roll-out.

For many years I have been a staunch student of leadership. It has helped me in ways I never anticipated. It has increased my self-awareness, improved my interpersonal skills and helped my decision-making skills. The most fascinating element of leadership development is that it is ongoing -- a lifelong journey. As a matter of fact, I recently had my first coaching session with BST and found it to be timely, needed and extremely beneficial. I learned things I needed to know to be a better leader.

Leadership principles teach that building and nurturing relationships, trusting people, delegating authority, listening to others and letting go of command and control will build healthy teams and organizations. It's also about monitoring and measuring, which may sound contradictory to letting go of command and control, but actually it is not. It's building trust in people and measuring the progress we make. Measuring, or metrics, is an important tool in determining if we are meeting our goals and objectives. Goals and objectives are the steps we take to get better, and it is up to the leadership to determine, with employee input, the positive steps. Measuring is an imperative, especially when it comes to safety, which is BST's expertise -- building leaders whose focus is better safety and organizational health. The stark reality is that exposure to risk, whatever the risk, has to have careful, open and honest debate in order to determine which risks are acceptable. Sometimes we think things are going well, when actually we "got by" with a choice that was not necessarily the right one.

Also, leadership takes place at all levels within an organization, from front-line employees to those in the Senior Executive Service. The best leadership practices apply to everyone: vision, credibility, communication, feedback, collaboration, recognition and accountability. By putting these and other leadership principles into practice we become proactive. An organization that does not model appropriate behaviors in a genuine and sincere fashion can suddenly find itself in survival mode (also called survival learning) rather than working and responding as a cohesive team.

To the employees of the Center, I want to encourage you to support your supervisors and managers as they work on these important skills. We are undertaking a huge endeavor and being supportive is the right thing to do. The bottom line during this learning experience is what we can do as a team.

I am pleased that BST is here to give us expert advice, teachings and guidance. We have much to learn when it comes to this subject, so having an experienced team is a gold mine. Although there is much work ahead, I know the long-term outcome will be a better Marshall, which will in turn be a better Center in helping the Agency carry out its mission.

Raffaello logistics module sealed for Space Shuttle flight

A milestone in preparation for Space Shuttle Discovery's Return to Flight Mission (STS-114) was achieved on April 14 when the hatch was closed on the Multi-Purpose Logistics Module, Raffaello, at NASA's Kennedy Space Center, Fla. The module will carry 12 racks of cargo to the International Space Station, including food, clothing, spare parts and research equipment.

"With hatch closure of Raffaello, we are one step closer to Return to Flight and resuming re-supply and assembly of the Station," said Tip Talone, director of International Space Station and Payload Processing at KSC. "The processing team did a superior job."

The Marshall Center manages the Multi-Purpose Logistics Module for the Space Station Program.

Returning the Shuttle to flight and completing the Space Station are the first steps in the Vision for Space Exploration, a stepping stone strategy toward new exploration goals. Using the Space Station to study human endurance and adaptation in space, and to test new technologies and techniques, NASA will be prepared for longer journeys to the Moon, Mars and beyond.

Included in the cargo is the Human Research Facility (HRF-2) which will expand the Space Station capability to support human life sciences research. A similar facility, HRF-1, has conducted research since it was installed into the Destiny module in May 2001. The research includes using an ultrasound unit measuring bone loss and a gas analyzer system.

Bill Gerstenmaier, Space Shuttle program manager, said "Raffaello will also deliver a unique biomedical research capability with the HRF-2. It will help us learn more about humans living in space."

Photo by Doug Stoffer/ Marshall Center

Marshall Center administrators from left, Charles Chitwood, deputy director; Director David King; and Associate Director Robin Henderson view the offerings of the newly established Proposal Development Center.

Proposal Development Center is open for business

The Marshall Center rolled out the Office of Business Development in September 2004 to assist it in pursuing new work.

Marshall Center Director David King said during a Feb. 7 update that "Marshall is focused on integration of our capability and processes to ensure we are positioned to be a strong competitor." The Marshall Proposal Development Center, created by the Office of Business Development, is part of the initiative to make Marshall more competitive.

One of the proven practices industry uses for the creation of well written proposals is the co-location of the proposal team during the storyboarding, writing, review, and iteration stages of the proposal development effort. The Marshall Proposal Development Center does just that. The center comprises the facility, equipment, and collaborative software to enable the development of complex proposals. It is located in Bldg. 4487, consists of large workroom, a conference room, and a proposal library/storage room.

The center is outfitted with numerous computer workstations and a host of standard office equipment to facilitate the development of high quality, compliant proposals. The collaborative software environment allows the development of proposals either in the center or from remote locations. This feature is advantageous for smaller proposals which do not require co-location during the development effort.

The Business Development Office manages the center and proposal teams may use the facility on a first-come, first-serve basis. For more information on the capabilities and availability of the center, contact Marshall's Proposal Operations Manager, Sonny Mitchell, at 544-7306.

Griffin

Continued from page 1

his priorities, consistent with the President's Vision for Space Exploration will be:

- Fly the Space Shuttle as safely as possible until its retirement, not later than 2010
- Bring a new Crew Exploration Vehicle into service as soon as possible after the Space Shuttle is retired
- Develop a balanced overall program of science, exploration and aeronautics at NASA, consistent with the redirection of the human spaceflight program to focus on exploration
- Complete the International Space Station in a manner consistent with our international partner commitments and the needs of human exploration
- Encourage the pursuit of appropriate partnerships with the emerging commercial space sector
- Establish a lunar return program having the maximum possible utility for later missions to Mars and other destinations.

President George W. Bush nominated Griffin as NASA Administrator in March, while he was serving as the Space Department head at Johns Hopkins University's Applied Physics Laboratory in Baltimore.

Griffin was president and chief operating officer of In-Q-Tel, Inc., before joining Johns Hopkins in April 2004. He also served in several positions within Orbital Sciences Corporation, Dulles, Va., including chief executive officer of Magellan Systems, Inc.

Earlier in his career, Griffin served as chief engineer at NASA and as deputy for technology at the Strategic Defense Initiative Organization. He has served as an adjunct professor at the University of Maryland, Johns Hopkins University and George Washington University.

He taught courses in spacecraft design, applied mathematics, guidance and navigation, compressible flow, computational fluid dynamics, spacecraft attitude control, astrodynamcis and introductory aerospace engineering. He is the lead author of more than two dozen technical papers, as well as the textbook, Space Vehicle Design.

A registered professional engineer in Maryland and California, Griffin is a fellow of the American Institute of Aeronautics and Astronautics (AIAA). He is a recipient of the NASA Exceptional Achievement Medal, the AIAA Space Systems Medal and the Department of Defense Distinguished Public Service Medal, the highest award given to a non-government employee. He is a certified flight instructor with instrument and multiengine ratings.

He received a bachelor's degree in physics from Johns Hopkins University; a master's degree in aerospace science from Catholic University of America; a doctorate in aerospace engineering from the University of Maryland; a master's degree in electrical engineering from the University of Southern California; a master's degree in applied physics from Johns Hopkins University; a master's degree in business administration from Loyola College; and a master's degree in civil engineering from George Washington University.

Marshall imaging team develops 'eyes in the sky' for Shuttle

By Rick Smith

When the Space Shuttle Discovery (STS-114) returns to flight next month, it will have a special escort, but the pair of NASA WB-57 chase jets won't just be along for the ride.

Thanks to an engineering team that includes the Marshall Center and key industry partners, these high-flying chase planes will provide NASA with extra "eyes in the sky" to watch Discovery's flight and help safeguard its crew.

The jets will carry innovative, on-board video imaging systems, dubbed the WB-57 Ascent Video Experiment, or WAVE project. The system will capture detailed images of how the Space Shuttle behaves as it climbs toward orbit.

During the launch, the jets will keep pace with Discovery, flying at a distance of 15 to 20 miles. The WAVE systems will track the Shuttle for approximately 150 seconds, from liftoff to separation of the Solid Rocket Boosters, the power systems that provide the main thrust to lift Discovery off the pad.

After determining a piece of insulating foam from the External Tank damaged the Space Shuttle Columbia just after liftoff, the Columbia Accident Investigation Board recommended NASA improve imagery during Orbiter ascent. The chase-plane imagery is part of NASA's response to the recommendation.

"Shuttle video captured by the chase vehicles will help us see the launch in greater clarity than ever before," said project manager Bob Page, who leads NASA's Inter-Center Photography Working Group at the agency's Johnson Space Center in Houston. "Along with cameras on the ground, and in and on the Shuttle itself, this imaging system will provide an unprecedented look at Shuttle liftoff and atmospheric flight," he said.

NASA video technicians built and tested the high-definition imaging system earlier this year. They called in optics specialists from Marshall's Space Optics Manufacturing and Technology Center to design the telescopic optics to simultaneously record the Shuttle in visible light and infrared.

One of two WB-57 jet planes, normally used by NASA's Johnson Space Center for high-altitude weather research, prepares for takeoff, carrying a special nose-mounted imaging system that will help NASA track and safeguard Shuttle Discovery during STS-114: Space Shuttle Return to Flight.

Mechanical engineers from the Marshall Center and the University of Alabama in Huntsville designed the housing. Marshall's Mission Operations Laboratory helped develop software to control the infrared camera and recorder. Huntsville engineers working for San Diego-based SAIC, a NASA contractor, helped integrate the cameras and recording system.

"This was the very definition of a team effort," said Marshall engineer John West of the Space Optics Manufacturing and Technology Center. "In June 2004, we were looking at nothing more than a concept on a drawing board. In nine months, we built two complete imaging systems."

Just one issue remained: how to get the complex, bulky WAVE systems airborne. Each system had to be mounted in the nosecone of the chase planes, using a large gimbal, a stabilizing anchor to keep the cameras focused on the Shuttle, even if turbulence caused the plane to dip or drift. The WAVE team turned to Southern Research Institute in Birmingham for the solution: a gimbal system similar to ones the firm built to support U.S. Army missile tests.

According to John Collier, senior program manager for SRI, the company designed and built a new gimbal to suit NASA's needs by using a lightweight, carbon-graphite epoxy. In March, the firm integrated the WAVE systems with the gimbals.

"Across the Agency, we're all working to make the Space Shuttle safer," said Marshall project lead Rodney Grubbs. "This was our opportunity to contribute, and we're excited about what our imagery might mean for the safety of our astronauts."

Managed by JSC, the WB-57s are former U.S. Air Force planes designed to study weather conditions at high altitudes. When the Air Force phased out its WB-57s in the 1970s, it transferred two of the jets to NASA. NASA's are the last two WB-57s still flying.

The writer, an ASRI employee, supports the Public Affairs Office.

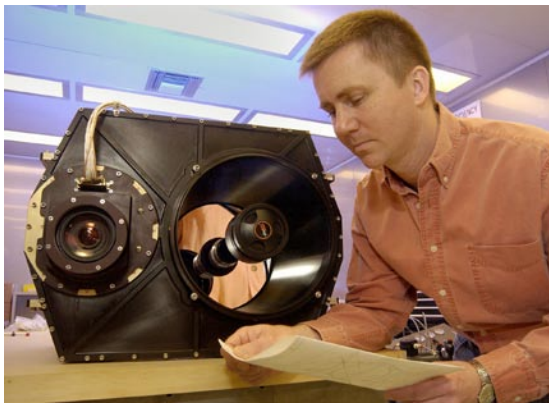

Photo by Emmett Given/ Marshall Center

Marshall engineer John West checks specifications of the WAVE telescope.

Photo by Doug Stoffer/ Marshall Center

Recognizing leadership

William F. Readdy, right, NASA associate administrator for Space Operations, presents Jody Singer the Space Flight Awareness Leadership Award for her outstanding technical and managerial leadership of the Reusable Solid Rocket Motor Program. Singer, supervisor of that program at the Marshall Center, received the award during the recent Space Flight Awareness Program in Nashville.

BST briefing set in Morris Auditorium Thursday

Marshall Center Deputy Director Charles Chitwood and officials from Behavioral Science Technology (BST), Inc. will hold a briefing with all personnel in leadership positions Thursday at 10:30 a.m., in Morris Auditorium, to discuss NASA's on-going cultural assessment effort.

NASA hired BST to help the Agency improve its communications and decision-making as it relates to mission safety. Primary activities for this effort include identifying and increasing the leadership behaviors that are critical to ensure mission success.

Since BST's first approach is to train managers to embrace a new safety culture, the briefing is mandatory for Marshall supervisors and team leads. Employees have a critical role in the process by providing valuable feedback on leadership behaviors they've observed. All Marshall team members are welcome to attend.

This presentation will also be broadcast live on Marshall and Desktop TV.

Tanking test

Continued from page 1

closer to returning the Space Shuttle fleet to flight," said Michael Kostelnik, NASA's deputy associate administrator for International Space Station and Space Shuttle Programs. "Although we have further milestones to complete before we fly, we are proud of the technical advancements we have made the last two years to ensure a safe mission," he said.

During the STS-114 Return to Flight Integrated Tanking Test, the ground operations crew at Kennedy Space Center loaded the External Tank with liquid oxygen and liquid hydrogen fuel to evaluate how the tank, Orbiter, Solid Rocket Boosters and the ground systems perform under "cryo-load," when the tank is filled with the two ultra-low temperature fuels. At launch, the tank's liquid hydrogen is within a range between minus 419 to minus 422 degrees Fahrenheit and the liquid oxygen is within a range between minus 282 to minus 289.

Testing the tank and its systems begins with propellant loading and continues through stable replenish -- the point when technicians have stable control of propellant entering the tank --keeping the level at 100 percent. Once the tanks are about 98 percent filled, technicians slow the flow of the propellant -- called topping the tank -- until the tank is 100 percent filled. The stable replenish phase takes about five-and-a-half hours.

Because the tank is warm and the propellants are extremely cold, some of the propellant burns off. Filling a warm tank is like throwing water on a hot grill. That's why technicians must continually add propellant to keep the level at 100 percent. As the tank is filled, it cools and the propellants inside become denser. By continuing to add propellant, it "packs or squeezes" more propellant into the tank.

Once the tank is filled, technicians terminate the replenish phase and the tank and propellant are readied for a simulated launch.

The April 14 test included a simulated countdown through the T minus 31 second hold, which is the hold prior to initiating an actual launch countdown. Generally, the total length of the test, including calling the mission team to its stations and the ground operations at Kennedy Space Center, is approximately 48 hours to completion.

Without the test, launch day would be the first time in more than two years that NASA would have employed the cryogenic loading systems and performed an on-the-pad inspection of the External Tank's Thermal Protection System.

The tanking test was not required by NASA to certify redesigns that have been made on the External Tank. However, the test did demonstrate the effectiveness of the redesigned External Tank bipod heater system that replaces the original bipod foam ramp and the new "drip-lip" design that reduces the potential for ice accumulation on the liquid oxygen feedline bellows, joints that allow the tank's fuel line to adjust.

The writer, an ASRI employee, supports the Public Affairs Office.

Photo by Emmett Given/ Marshall Center

New One NASA rep named

David King, right, Marshall Center director, announces that Bruce Askins will serve as the new One NASA representative for Marshall, replacing Dave Edwards. Askins will work with Headquarters' One NASA Implementation Team to coordinate issues and responses between the team and the Center. For more information on One NASA, go to: http://www.onenasa.nasa.gov/Onehome.htm

High school teams to launch rockets this weekend

By Sanda Martel

High school students from Alabama, California, Indiana, New York, Virginia, Washington and Wisconsin will test their rocket-building skills during a two-day event this week sponsored by the Marshall Center in collaboration with the Arnold Engineering Development Center at Arnold Air Force Base in Tullahoma, Tenn.

Nine teams will showcase and launch reusable rockets they designed and built during the school year as part of NASA's Student Launch Initiative, an education program designed to allow high school and college students to experience practical aerospace and engineering activities. Working in teams, students demonstrate proof-of-concept for their designs, develop Web sites dedicated to their work, learn how to budget -- including how to present financial proposals to NASA engineers and community leaders -- and gain problem-solving skills.

Teams will present their rocket designs to engineers at the Student Launch Initiative Rocket Fair at the Marshall Center Friday. On Saturday, students will launch their rockets from a sod farm, Mid Tenn. Turf, Inc., near Manchester, Tenn.

The first rocket will lift off at approximately 9:30 a.m. and the event will continue until all teams have launched their rockets. The public is invited to attend this event and admission is free. In case of rain on launch day, the event will be held Sunday.

Each student team will attempt to launch its rocket, which will carry a scientific payload, to an altitude of one mile. Marshall Center engineers will evaluate teams on rocket design, including propulsion, materials, payload and safety features, and Huntsville Area Rocketry Association volunteers will support the launch by assisting with flight hardware check and assessment of target altitude.

"The Student Launch Initiative is one way we encourage young people to get hands-on experience in rocket science, engineering and the nuts and bolts effort it takes to design, build and launch a space craft," said Jim Pruitt, supervisor of the Academic Affairs Office at the Marshall Center. "These young men and women could very well be working on the Vision for Space Exploration that will take us to the Moon, on to Mars and beyond." The Vision calls for the Space Shuttle's Return to Flight, completion of the International Space Station, and human and robotic exploration of the Solar System.

High schools participating for the first time in the 2004-2005 Student Launch Initiative include Laguna Creek High School in Elk Grove, Calif.; Oakton High School in Vienna, Va.; Skyline High School in Sammamish, Wash.; Madison West High School in Madison, Wis.; University School of Milwaukee, Milwaukee, Wis.; and Edison High School in Fresno, Calif. Teams returning for the second year include Manlius Pebble High School in DeWitt, N.Y.; Lee High School in Huntsville; and Goshen High School in Goshen, Ind.

The Student Launch Initiative is not a competition, but teams will be recognized for excellence in various categories such as best vehicle design, payload and Web site development.

The writer, an ASRI employee, supports the Public Affairs Office.

Photo by David Higginbotham/Marshall Center

Astronauts train using special crack repair material

Astronaut Stephen Robinson, center, a crew member for STS-114, talks about the crack repair training he received at the Marshall Center Saturday. Robinson and astronaut Scott Parazynski, not pictured, were at Marshall Bldg. 4619 to familiarize themselves with the Reinforced Carbon-Carbon On Orbit Crack Repair Material (ROCR), which will be flown aboard STS-114 and STS-121. The astronauts will perform an Extra Vehicular Activity experiment with the crack repair material on flight STS-114. All of the development work for use of this material in space was done in Marshall laboratories.

Five aboard Space Station as crew change begins

The International Space Station's population swelled to five Sunday with the arrival of Expedition 11 and an Italian astronaut.

A Russian Soyuz spacecraft delivered the new Expedition 11 crew -- Commander Sergei Krikalev and NASA International Space Station Science Officer John Phillips -- and European Space Agency Astronaut Roberto Vittori of Italy. Krikalev and Phillips will spend about six months aboard the Space Station. Vittori will spend eight days, returning to Earth with the Expedition 10 crew.

The Expedition 10 crewmembers -- Commander Leroy Chiao and Cosmonaut Salizhan Sharipov -- have lived aboard the Station since October.

Chiao, Sharipov and Vittori will leave the Station April 24 in the Soyuz that brought Expedition 10 to the orbiting laboratory.

Announcements

Applications being accepted for Planetary Summer School

Applications are due June 3 for NASA's 17th Annual Planetary Science Summer School, which runs July 25-29 and Aug. 1-5, at the Jet Propulsion Laboratory, Pasadena, Calif. Science and engineering postdoctoral and graduate students with a strong interest in careers in planetary exploration are encouraged to apply. Students will gain a clearer understanding of the relationships among mission design, cost, and schedule, and the tradeoffs necessary to stay within cost and schedule while acquiring high-quality science. Partial financial support is available. For application and other information, go to http://www2.jpl.nasa.gov/pscischool/.

Shuttle Buddies to meet April 25

The Shuttle Buddies will meet at 9 a.m. April 25 at Mullins Restaurant on Andrew Jackson Way. For more information, call Deemer Self at 881-7757.

Local Engineers Without Borders chapter proposed

Anyone interested in starting a Huntsville-Madison County chapter of Engineers Without Borders should contact Stephen Clanton at 544-5643. Engineers Without Borders is a non-profit, humanitarian organization established to partner with developing communities to improve the quality of life of its residents.

Daily video feed airing on Return to Flight efforts

NASA TV is now running a special daily video feed "STS-114 Return to Flight Gallery," for the Space Shuttle Return to Flight mission. Schedule permitting, it airs daily from noon to 2 p.m. CDT. The Return to Flight Gallery will include a rotation of video items, including full-length interviews with each of the Space Shuttle Discovery crew members, replays of mission coverage, news briefings, b-roll and soundbites. The mission is the first of two test flights to verify new inspection and repair techniques, and to deliver supplies to the International Space Station. Discovery has a launch window from May 15 to June 3.

QUESTeam seeks candidates for seven job positions

As part of the ongoing NASA Shared Services Center (NSSC) proposal activity, the Quality Efficient Services Team (QUESTeam) was established to represent NASA in the competition for NSSC Service Provider work. The QUESTeam is currently recruiting for positions in financial management, information technology, human resources, procurement, business management, and customer service, and is seeking NASA civil servants with experience in these areas. The QUESTeam has posted seven job vacancy announcements for positions that would be filled upon winning the contract. See "Inside Marshall" for details.

NASA Transformation White Paper on NASA Web site

The "NASA Transformation White Paper" was created to address questions and communicate the linkage and alignment of the various agency transformation efforts within the framework of three overarching transformation goals. The paper was developed in response to comments heard from NASA team members during various forums. The NASA Transformation White Paper and supporting charts are available on the Inside NASA Web site at http://www.insidenasa.nasa.gov/nasa_nas/ops/NASA_transformation/NASA_trans_wp.html

Management Operations retirees to meet Thursday

The Management Operations Retirees will meet at 10 a.m. Thursday at the Cracker Barrel Restaurant in Madison.

MARS Running Club to meet Thursday

The MARS Running Club will meet from noon to 1 p.m. Thursday in Bldg. 4315, Room 117. Club membership is open to all Marshall Center employees and their spouses, retirees, and contractors. Those interested in joining are encouraged to attend. Membership is $5 per year.

Classified Ads

Miscellaneous

Large dresser, $100; sofa and love seat, $400; coffee table, $50; exercise bike, $50. 256-534-0939

Compaq 7500, 17" SVGA color display, black/silver, 1024x768 at 85Hz-0.28mm, 7 months old, $75. 541-1788

Two crypts, Valhalla Memory Gardens, below market value. 860-558-3063

Werner 20' extension ladder, $50; crib mattress, $30. 961-9528

Canon ElanIIe 35mm camera, 28-80mm & 75-300mm lenses, Sunpak PZ4000AF tilt-head flash, $426. 797-2668

Two Primestar satellite receivers, one new, one 5 yrs. old, w/books & remote, best offer. 256-679-3921

Classical music on vinyl 60 LPs. 885-2448

Two pet female SugarGliders, two cages & lots of accessories, $400. 256-759-3932

Four wheels for 2002 Toyota Tacoma, never used, $75; Children's 20" Pacific bicycle, $15. 828-5879

Millennium III 5-in-1 crib & mattress, Cherry glider, 6 piece bedding set, $400. 679-9895

Twin bed, mattress/box springs, boy's race car design, $100. 533-9683

Wedding dress w/veil, size 8, $100; kid's gas powered scooter, new, $200. 776-9165

HP Photosmart printer, 1315, $50; VCR, $20; Softub hot tub, 6' diameter, 4-jets, $2,000. 509-3392

Rebuilt 350 Turbo auto transmission w/Kevlar bands, new B&M shifter, $800. 797-8895

HP1300 printer, 20ppm, 1200x1200 dpi, $250. 882-3326

Zenith TV, 36", built-in stand/case including speakers, can email pictures, $225. 859-9204

Large formal sofa, $100; formal chairs, $25; Sega CD Power Rangers game, $5. 430-6842

Over 100 unbuilt/complete plastic model kits, space, aircraft & cars. 256-508-1558

Marquis ½ carat ring w/matching .33 carat wrap, 14K gold, size 7, $410 firm. 828-4334

GE built-in double ovens, electric, white, self-cleaning, digital, timers, JKP45W0V1WW, $500. 214-0110

Zenith Advanced System 3-color TV, 27" w/remote control, $45. 256-895-0045

Sears Craftsman self-propelled mower, 22", 5.5HP, $50. 772-7845

Pair of Oriental fire-bellied toads, complete setup w/terrarium, filter, etc., $20. 883-7322

New Dell 8400, 19" flat LCD monitor, dvd/cd burner, 3.1Ghz-P4, 256Mb-nVidia 6800, $1,500. 251-650-2385

New Dell 8400 computer, 19" flat LCD monitor, cd burner, 3Ghz-P4, 89GbHD, 128Mb-video, $940. 655-1986

Vehicles

Murray go-kart, 6hp, 2-seater, w/roll cage and seat belts, new rear tires, clutch & chain, $350. 256-351-6992

1999 Bayliner 2855 cabin cruiser, 7.4L, B-III, less than 100 hrs., $44,900. 881-3527

2002 Jeep Wrangler Sport, white, hard/soft tops, 52k miles, automatic, new tires. 256-572-6527

1998 Volvo S-90, dark green, tan leather interior, 4-door, one-owner, 34k miles, $12,000. 931-433-1866

1975 Mercedes 450sl convertible, red, $11,500, or trade for Nissan Maxima or similar. 256-533-5942

1998 BMW 740IL, hunter green, tan leather interior, 101k miles, new tires, $16,000. 682-0888

1996 SeaDoo XP, will trade for ATV. 256-572-1197

2001 Venture van EXT Warner Bros. edition, loaded, tv, vcr, 98k miles, $11,995. 206-0792

1994 Dodge Grand Caravan, 155k miles, $2,900. 880-1663

1986 Honda Fourtrax 70, child sized ATV, 70cc engine, $600. 230-6382

1988 Acura Legend L coupe, 5-speed, v6, 245k miles, $1,000. 379-3606

2004 Mustang GT convertible, loaded, gray w/gray leather, 13.5k miles, 5-speed, $23,500. 337-2450

2003 Nissan Altima S 2.5, 4-door, 17.5k miles, $16,700. 536-7466

1997 BMW 740 iL, 137k miles, dark green, tan leather, loaded, $11,750. 536-8692

1997 Ford Escort, hunter green, rear spoiler, 130k miles, $1,600. 256-489-8255

2003 Nissan Pathfinder, v6, 2wd, automatic, 4-door, 23k miles, leather, cd, tow, silver, $23,500. 880-3337

1998 Plymouth Grand Voyager, 100k miles, $4,500. 651-2429

1999 Ford Explorer, 4x4, loaded, 75.5k highway miles, $8,299. 353-3229

2002 Camaro, v6, auto, 45k miles, black, T-tops, 35th Anniversary Edition. 256-683-8801

2005 Honda Rancher, yellow, 4x4, manual transmission, low hours, $4,000. 232-1716

2005 Jeep Liberty Sport, 4x2, 3.7L, 4-door, 6-cyl., stone white, 6k miles, $19,000. 829-0589

2002 HD Limited Edition Sportster, orange/black, 7.3k miles, $5,700. 509-9550

1999 Cadillac Escalade, v8, ps/pb, 2 a/c, f/b, hs, tv, vcr, 2cd units, $16,500. 256-337-8526

1974 Glassmate bass boat, 85 Evinrude, new trolling motor, new fish/gps unit, new powerpack /coils, $1,495.883-9884

1989 Coachman Classic travel trailer, 33', central heat, overhead a/c, receiver, sway & leveler, $3,995. 683-3745

Kawasaki Mojave 4-wheeler, 250cc, kick-start w/reverse, one-owner, $2,000. 256-586-7013

1993 Jeep Grand Cherokee Laredo, 4x4, v8, auto, 86k miles, $4,100. 256-325-0221

1986 Mercury Grand Marquis, black, 76.4k miles, v8, good tires, trailer hitch, $3,500. 881-2027

1995 Ford Taurus wagon, mechanically sound, 172k miles, 70k on engine, $2,500. 256-739-9467

1999 Honda Valkyrie Interstate, 1500cc, red/black, approx. 10k miles, $8,750. 256-509-4453

1992 Cadillac DeVille, loaded, leather, sunroof, 125k miles, black, $2,300. 520-2802/Ron

Wanted

Camper shell for GMC long wheelbase pickup. 772-3888

Manual transmission bell housing for hydraulic slave, Camaro/Firebird 84-92 or Corvette 85-87 compatible. 797-8895

Small utility trailer, any condition. 880-6146

Used or unused collector U.S. postage stamps including duck stamps. 256-684-2187 after 7 p.m. Mon.-Fri.

1986-89 Chevy/GMC S10 LWB non-running project truck, must have good body and title. 256-508-1558

Free

Mature boxwoods, 4' to 6' tall, you remove & take away. 828-2178

Old English Sheepdog, AKC registered, 2-1/2 years old, playful. 256-679-3565

MARSHALL STAR

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